

Current Projects - Fish Culture

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Walleye Culture Research, Making a Great Product Better!

Currently, all of Iowa's large walleye are produced in a tandem pond to tank culture method where fry are stocked in ponds and grown on natural prey items, then converted to dry feed and grown to eight inches. Tank culture of fry on dry feeds without pond culture has been evaluated at Rathbun Fish Culture Research Facility; however, deformity rate of fry, albeit low, remains a concern. In 2012, we compared performance and survival of lake and river strain of fry from 3 to 35 days post hatch fed Otohime diets. A second part of the trial evaluated a vitamin D supplement top dressed onto the Otohime diets fed to each strain compared to Otohime diet without supplemental Vitamin D coating. Growth and survival of fry fed the vitamin D diet was similar to the performance of fry fed the noncoated control diet, regardless of fry strain. Survival of river strain fry (75.8%) was greater than the survival of lake strain fry (66.7%) to 35 days post hatch. These survival rates are typical of the intensive fry culture method but survival in ponds typically exceeds 90% at Rathbun. However, fry produced by intensive culture were 0.67 g and larger than those produced in ponds which were 0.47 to 0.56 g. Intensive fry culture method offers an alternative to pond production and results in good survival rates and predictable growth rates. This method should be considered for production scale to meet the needs of walleye fingerling stocking in Iowa.

Rising cost of fish meal, the major ingredient in the Walleye Grower (WG) 9206 formulation, and the need for economical production diets are two reasons we compared alternative diets for feeding walleye from fingerling to fall stocking size in 2012. The standard WG 9206 was compared to an experimental WG formula with poultry meal replacing some fish meal and a Salmon diet; all diets were manufactured by Skretting (Tooele, UT). At the end of the 70-day trial, walleye fed WG 9206 were significantly longer than walleye fed WG experimental or salmon diet, by 5.4 mm and 12.3 mm, respectively. The daily rate of length gain was significantly lower for walleye fed the salmon diet (1.22 mm/day) compared to either WG 9206 (1.38 mm/day) or WG experimental (1.31 mm/day). These results are consistent with previous research which has demonstrated that WG 9206 results in better growth than other experimental formulations and commercial formula diets for salmonids.